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Will Virginia's Children Stay in School?
(The Global Economy and Educational Attainment in Virginia)

Teresa Williams and Jan L. Flora

A nation's real technological assets are the capacities of its citizens to solve the complex problems of the future.
--U.S. Secretary of Labor Robert Reich

In a recent article on population changes in southwest Virginia, *Roanoke Times & World-News* writer Jeff DeBell described a big piece of a complex problem for rural Virginia with this sentence: "People will move in search of work." Rural areas know well the problem of losing people, especially young people, to more-populated areas. Such migration is often fostered by education, if successful students have to move to find jobs that match their training and skills. A related problem--one that is perhaps less well understood--is how a local job market affects education in a locality. As was pointed out in a recent REAP Report entitled *Educational Performance in Virginia's Rural Schools*, local employment opportunities can be an important influence on students' educational performance and on their decisions about completing high school or going on to college.

In this paper, we offer some early results from research on the relationship between educational attainment--the level of education that one reaches--and the occupations in an area that are available to graduates. In our work, educational attainment for the 133 Virginia school districts existing in 1990-91 was measured by two contrasting indicators: high school dropout rate (a negative measure of attainment), and the percentage of high school graduates who go on to post-secondary education (a positive indicator). To set the context for our results, however, we first discuss the changing nature of the labor market in the United States.

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The Labor Market in the 21st Century

The 1970s were a boom period for rural areas, when total employment and personal income rose rapidly. During the 1980s, however, the trend reversed as rural areas lost manufacturing firms and jobs. While rural areas that were closely linked to urban markets held their own or even prospered, other rural areas declined.

Meanwhile, global shifts in the marketplace have been having an impact on local economies. Businesses and workers everywhere are under increasing pressure to compete in a growing international labor market. That pressure is causing local labor-market changes and is forcing localities to prepare for even greater changes to come.

One description of the nature of the changing labor market is found in the writing of the current U.S. Secretary of Labor, Robert Reich. In his book *The Work of Nations: Preparing Ourselves for 21st-Century Capitalism*, Reich identifies three broad categories of occupations that will be found in the economy of the future: symbolic analysts, in-person service providers, and routine producers.

Symbolic analysts are those people who bring together ideas, "brokering" concepts into profitable or beneficial actions. Engineers, investment bankers, and professional consultants are examples of highly educated and specialized symbolic analysts. Educational requirements are generally a university undergraduate or graduate degree, and income depends upon the individual's ability and speed in identifying or solving problems. For symbolic analysts, "work occurs wherever and whenever ideas are communicated" (Reich, p.236).

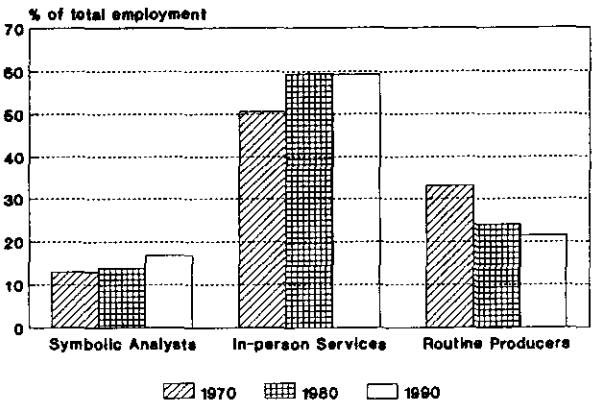
In-person service providers, as the name implies, provide "person-to-person" services. This broad category includes doctors, teachers, day-care workers, secretaries, restaurant workers, and many other occupations. The education needs and the incomes of in-person service providers vary greatly.

The jobs of *routine producers* involve repetitive tasks and usually require no more than a high-school education. An example is the traditional assembly-line worker. Note, however, that someone who assembles a product, but who is a member of a team that has a good deal of autonomy in deciding precisely how that product is to be manufactured, might function as a symbolic analyst. One must be careful, therefore, in classifying workers by Reich's categories using traditional occupational titles. The focus of Reich's framework is not titles, but rather the kinds of tasks performed.

Given this framework, what does Reich say about the future economy? Reich indicates that, in the global market that already exists and that will broaden even more in the future, symbolic analysts and in-person service providers (especially highly educated service providers) are on the increase, while routine manufacturing jobs continue to decline in number. Much of the growth in demand for in-person service providers is created by increases in the number of symbolic analysts and in their disposable incomes. If the United States is to be competitive in the global economy of the 21st Century, Reich argues, our educational system needs to produce more and higher-quality symbolic analysts.

Virginia, of course, is not immune from these global and national trends. In fact, our research indicates that symbolic analysts have increased from 13 percent of the Virginia labor force in 1970 to 17 per cent in 1990 (Figure 1). Over the same 20-year period, in-person service providers have increased from 51 percent to 59 percent; much of this growth has been in service jobs that require relatively little education or skill. Routine producers over this period have decreased from 33 percent to 22 percent. Given these facts about the current and expected nature of occupational patterns in Virginia, we turn now to educational attainment in Virginia and to relationships between educational attainment and available occupations.

Figure 1. Occupation change in Virginia, 1970-90.



Source (for occupation numbers): U.S. Census Bureau reports, 1970-90.

Educational Attainment in Virginia

As mentioned above, two indicators were used to characterize educational attainment in Virginia localities: the dropout rate, representing the proportion of students in grades 8-12 who leave school during the year or fail to return to school at the beginning of the following year; and the continuing-education rate, representing the percentage of graduates continuing education beyond high school (this includes vocational training as well as four-year and two-year colleges).

As seen in Figure 2, the highest dropout rates are in urban areas, and the lowest rates are in suburban areas, with rates in rural areas slightly higher than those of the suburbs. As Figure 3 shows, continuing-education rates since the mid-1970s have risen in all three types of areas. In contrast to dropout rates, continuing-education rates in central cities are quite similar to rates in other metropolitan areas (suburbs and smaller cities). Rural areas, while consistently showing a lower rate in continuing education than metropolitan areas, nevertheless have been following a similar upward trend.

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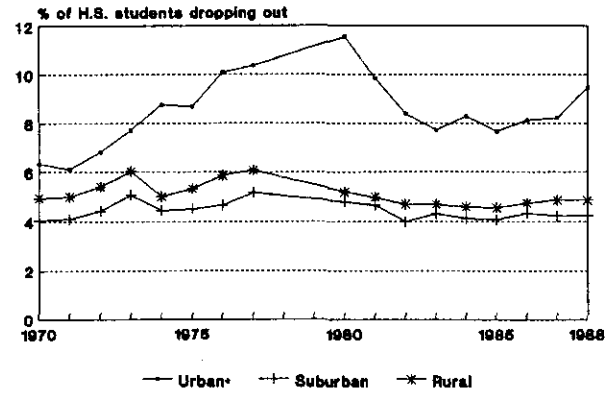
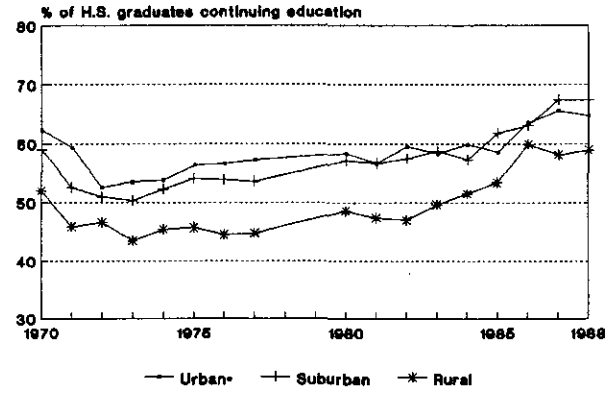
Figure 2. Dropout rates in Virginia high schools.



Source: Virginia Department of Education, *Facing Up*.

Figure 3. Virginia high-school graduates continuing education.



Source: Virginia Department of Education, *Facing Up*.

Our work has attempted to look beyond these trends, however, to try to determine why educational attainment might differ from one school district to another. Examination of data for the 133 Virginia school districts in 1990 showed that, as the percentage of high-education occupations increased in an area, so did the percentage of students continuing their education beyond high school. On the other hand, a higher dropout rate was more likely to occur in areas with a higher percentage of low-education occupations. The dropout rate is perhaps more revealing than the continuing-education rate, especially because students who continue their education may eventually pursue jobs outside of their locality.

To Invest or Not to Invest?

Education is an investment, both for the student and (in a publicly funded system) the community. The decision for a student to invest (or not to invest) in continued formal education is a complex one. Future income is an incentive to finish high school, college, or other vocational training. Students consider the cost of attending school as well as lost income while in school. If the expected income is the same with and without a high school degree, there is no income incentive to finish high school. This decision is similar for vocational training and college. On the other hand, if the incentive of a higher-income job exists *and* is well-known to the student, he or she will place a higher value on continuing in school. Our study found that a high proportion of high-education jobs in the local job market helps students see the advantage of staying in school and continuing education. Similarly, the existence of many jobs requiring little training or skill is an incentive not to finish school. This may be especially true for rural students who are often strongly tied to an area by family, culture, or preference for a rural lifestyle.

Communities and community leaders, as well, face important and difficult questions about investing in education, especially when local finances are stressed and other pressing needs exist. From a community or economic development perspective, one can reasonably ask, "What comes first, high-skill jobs or high levels of education?" More specifically, community leaders must consider whether local funds should be used to help create quality jobs demanding a highly-trained, educated labor force, or whether these funds should be used to educate the labor force in order to attract quality jobs.

The answers to such questions, and which strategy or combination of strategies a given community will choose, will depend on the community's particular characteristics. But every community should understand that the relationship between educational attainment and jobs can operate in both directions, and that a deficiency in one can have serious consequences for the other. Low-skill jobs provide little incentive for educational attainment, and low levels of education in the labor force hinder the development of any higher-quality jobs in the future. No community wants to find itself in such a cycle of low education and low productivity.

References and Further Reading

Broomhall, David E. *Educational Performance in Virginia's Rural Schools*. Virginia Cooperative Extension Publication 448-211/R012, 1993.

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Virginia Department of Education. *Facing Up-6* through *-24: Statistical Data on Virginia's Public Schools* (published annually). Richmond, 1972-90.

Correction

In the July/August 1993 issue of *Horizons*, Figure 1 on page 1 indicated 23 Virginia counties (and enclosed cities) with textile or apparel firms in 1987. In fact, however, 103 counties and cities in the state had at least one such firm in 1987. The figure actually depicted the counties where textile and apparel manufacturing is concentrated, that is, where these industries employed at least 500 people (in 1987). In addition, on page 4, Fieldcrest-Cannon was identified as being located in Danville. The firm is actually located in Fieldale in Henry County. We apologize for the errors and thank the reader who called these items to our attention.

NOTICES

*The Virginia Agricultural Economic Summit was held October 6, 1993, at the Richmond Omni. Speakers and panelists offered up-to-date information on the status and future of Virginia's agriculture. The meeting's sponsors were the Virginia Dept. of Agriculture and Consumer Services, REAP, Virginia State University, the Virginia Agribusiness Council, and the Virginia Farm Bureau Federation. More information on the conference will be provided in the next issue of *Horizons*.

*Two new REAP Reports are now available: *Economic Impacts of Manure Application Restrictions on Dairy Farms*, by Darrell Bosch and James Pease (pub. no. 448-213/REAP R015); and *The Economic Impact of Migrant Farmworkers on Virginia's Eastern Shore*, by Erin Sills, Jeff Alwang, and Paul Driscoll (pub. no. 448-214/REAP R016). For a copy of either report, contact Extension Distribution, 112 Landsdowne Street, Blacksburg, VA 24061-0512; (703) 231-6192.

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